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ABSTRACT

This study proposed a model of administrative job satisfaction and tested the model using a database of 1,178 administrators at 120 public and private universities. The robust model explained 54% of the variance in one's overall job satisfaction. Overall, the results show that state, campus, and most of the personal characteristics variables do not exert direct effects on one's overall job satisfaction. Instead, these exogenous organizational and personal variables exert small, but statistically significant, effects on the administrative work climates. These immediate work climates, in turn, have more powerful impact on the various components of job satisfaction. Three appendixes contain charts of estimates of effects of variables in the model. (Contains 52 references.) (Author/SLD)

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Testing a Model of Administrative Job Satisfaction

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Testing a Model of Administrative Job Satisfaction

ABSTRACT

This study proposes a model of administrative job satisfaction and tests the model using a database of 1178 administrators at 120 public and private universities. The robust model explains 54 percent of the variance in one's overall job satisfaction. Overall, the results show that state, campus, and most of the personal characteristics variables do not exert direct effects on one's overall job satisfaction. Rather, these exogenous organizational and personal variables exert small but statistically significant effects on the administrative work climates. These immediate work climates, in turn, have more powerful impact on the various components of job satisfaction.

THE RESEARCH AND POLICY PROBLEM

In the organizational literature, there are many studies that examine the linkages between the work environment, employee satisfaction, employee productivity, and turnover behavior. Yet in higher education, there are only a few studies and models that link employee work environments with outcomes like satisfaction and turnover (Johnsrud, 2002). Most higher education studies have assessed faculty and students, rather than administrators (Volkwein, et al., 1998). Administrative satisfaction is potentially connected to the vitality and performance of colleges and universities. In the profit-making sector, there is a strong connection between worker satisfaction and worker productivity. Most satisfied workers perform at their maximum capacity for the good of the organization, while most dissatisfied workers seek to increase their satisfaction by working for their own advantage (Fife, 1992). According to the Chronicle's 2001

Almanac of Higher Education, there are over 600,000 non-teaching professional staff in American colleges and universities. Over 144,000 of these are classified as full-time executive, administrative, and managerial employees. The few existing studies of this large and important population focus primarily on measuring the level of satisfaction, rather than on examining factors producing satisfaction and the subsequent connections to important outcomes such as organizational effectiveness and efficiency (Volkwein & Parmley, 2000).

The purpose of this study is to examine the influence of state, campus, and personal attributes on the work environments of higher education administrators, and also to measure the links among these work environments and different dimensions of job satisfaction. We propose a structural model of administrative satisfaction and then test the model using a database of 1178 university administrators at 120 universities. The research questions are: What are the strongest predictors of administrative satisfaction? What dimensions of satisfaction are the most significant contributors to overall satisfaction? Do the patterns of satisfaction differ among different administrative areas of campus organization?

CONCEPTUAL FRAMEWORKS AND MODEL

We know from the literature that job satisfaction can be defined as an indicator of one's feelings toward work, but that it is most certainly multidimensional and influenced by a complex array of personal and situational circumstances. (Herzberg, 1959; Kalleberg, 1977; Hagedorn, 2000; Volkwein, Malik & Napierski-Prancl, 1998). The Model proposed and tested here has its foundation in three branches of the research literature: job satisfaction, organizational perspectives, and individual characteristics.

Job Satisfaction

At the core of this study is the complexity of the job satisfaction literature. The multi-dimensional nature of satisfaction grew out of Herzberg's Two Factor Theory (1966), which drew our attention on the one hand to intrinsic job content factors (such as feelings of accomplishment, recognition, and autonomy), and on the other hand to extrinsic job context factors (such as pay, security, and physical working conditions). Several studies have examined the intrinsic and extrinsic dimensions of job satisfaction in higher education (Olsen, 1993; Austin & Gamson,

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1993; Hackman & Lawler, 1971; Kalleberg, 1977; Hagedorn, 1994). Employees may be satisfied with some components of their responsibilities or work environment but not satisfied with others. They could feel reasonably satisfied with the content of a job, but at the same time, frustrated about their potential for growth or mobility within the organization (Kanter, 1977). Volkwein and his colleagues (1998) found empirical support for several important dimensions of administrative satisfaction: Intrinsic satisfaction reflecting feelings of accomplishment, autonomy, creativity, initiative, and challenge in job; Extrinsic satisfaction reflecting one's attitude toward salary and benefits, opportunities for advancement, and future income potential; Satisfaction with work conditions showing one's reaction to work hours, work pressure, job security, and organizational politics; and interpersonal satisfaction reflecting one's relationships with colleagues, faculty and students.

In addition to agreement that job satisfaction is multi-dimensional, most studies conclude that satisfaction is influenced by a complex array of personal and situational circumstances (Austin & Gamson, 1983; Hoppock, 1977; Mumford, 1972; Bruce & Blackburn, 1992). Herzberg (1959, 1966) identified fourteen important factors that influence job satisfaction -- among them are achievement, recognition, the work itself, responsibility, possibility of advancement, possibility of growth, salary, job security, interpersonal relations, technical supervision, agreement with company policies and administration, work conditions, and personal life. Higher education research has shown that several work related variables exert positive and significant influences on administrative satisfaction -- a supportive organizational culture, teamwork, relationships with colleagues and superiors, worker autonomy, and self-fulfillment (Berwick, 1992; Bensimon & Newman, 1993; Austin & Gamson, 1983; Boone, 1987; Lawler, 1986; Rigg, 1992; Volkwein, Malik & Napierski-Prancl, 1998). Job and workload stress exert negative influences on satisfaction and are almost always included in studies of job satisfaction (Blau, 1981; Blix & Lee, 1991; Glick, 1992; Olsen, 1993; Hagedorn, 1996; Volkwein & Parmley, 2000).

Organization Perspectives

The organizational literature generally leads us to expect that an array of campus and environmental characteristics exert significant influences on the workplace. Perspectives from organization theory emphasize the importance of the organization's structure and its environment (Hall, 1995; Lawrence & Lorsch, 1967; Aldrich, 1979; Pfeffer & Salancik, 1978). An individual administrator works in a specific institution that has its own organizational characteristics and

environment. Some researchers suggest that university autonomy, state regulation, control, organizational mission, size, wealth, complexity, and quality influence managerial satisfaction (Austin & Gamson, 1983; Hall, 1995; Volkwein, Malik, & Napierski-Prancl, 1998). Researchers and accrediting bodies alike believe that effective organizations produce satisfied organizational members. Increasingly, administrative satisfaction is used as an indicator of organizational effectiveness (Cameron, 1978). The prevalence of employee unions may also influence administrative perceptions. Vander Putten, McLendon, and Peterson (1997) found that union-affiliated staff members perceive the culture, philosophy, climate, and outcomes of their work environment more negatively than do non-union staff.

In this study, we examine the different patterns of job satisfaction for administrators working in different functional areas. The organizational and higher education literature has noted the striking differences in the climate and values of those parts of professional organizations that are engaged in the goal activities of teaching and research (academic affairs) versus those that are more bureaucratic and engaged in support functions (like business and finance, personnel, and student services) (Birnbaum, 1988; Etzioni, 1964; Mintzberg, 1979; Volkwein, 1999). Although individual perceptions may vary sharply, the aggregate perceptions across an administrative area or entire campus may reflect a particular organizational climate (Johnsrud, 2002). Like academic departments, administrative units may create subcultures of workers who share similar characteristics, interests, and responsibilities (Hagedorn, 2000). These work environments also are multi-dimensional. Hagedorn (2000) suggests four dimensions which influence faculty job satisfaction: collegial relationships, student quality/relationships, administrative relations, and institutional climate or culture. Johnsrud and Rosser (1999), in an examination of midlevel administrators, identified nine work-related factors that explain the morale of administrators. They conclude that perceptions regarding recognition, discrimination, external relations, and mobility explain the morale of midlevel administrators.

Individual Characteristics

Consistent with research in other organizations, studies of managers in colleges and universities suggest that a variety of personal variables also exert potential influences on job satisfaction. Studies suggest a direct connection between job satisfaction and personal characteristics, such as age, sex, highest degree, length of service, academic rank, administrative rank, administrative function, personal health, and financial stress (Austin, 1985; Austin & Gamson, 1983; Bamundo & Kopelman, 1980; Hagedorn, 1994, 1996, 2000; Glick, 1992; Gmelch

et al., 1984; Lee & Wilbur, 1985; Martin & Shehan, 1989, Smith, et al., 1995; Solomon & Tierney, 1977; Spector, 1997; Sullivan & Bhagat, 1992; Volkwein, Malik & Napierski-Prancl, 1998; Volkwein & Parmley, 2000).

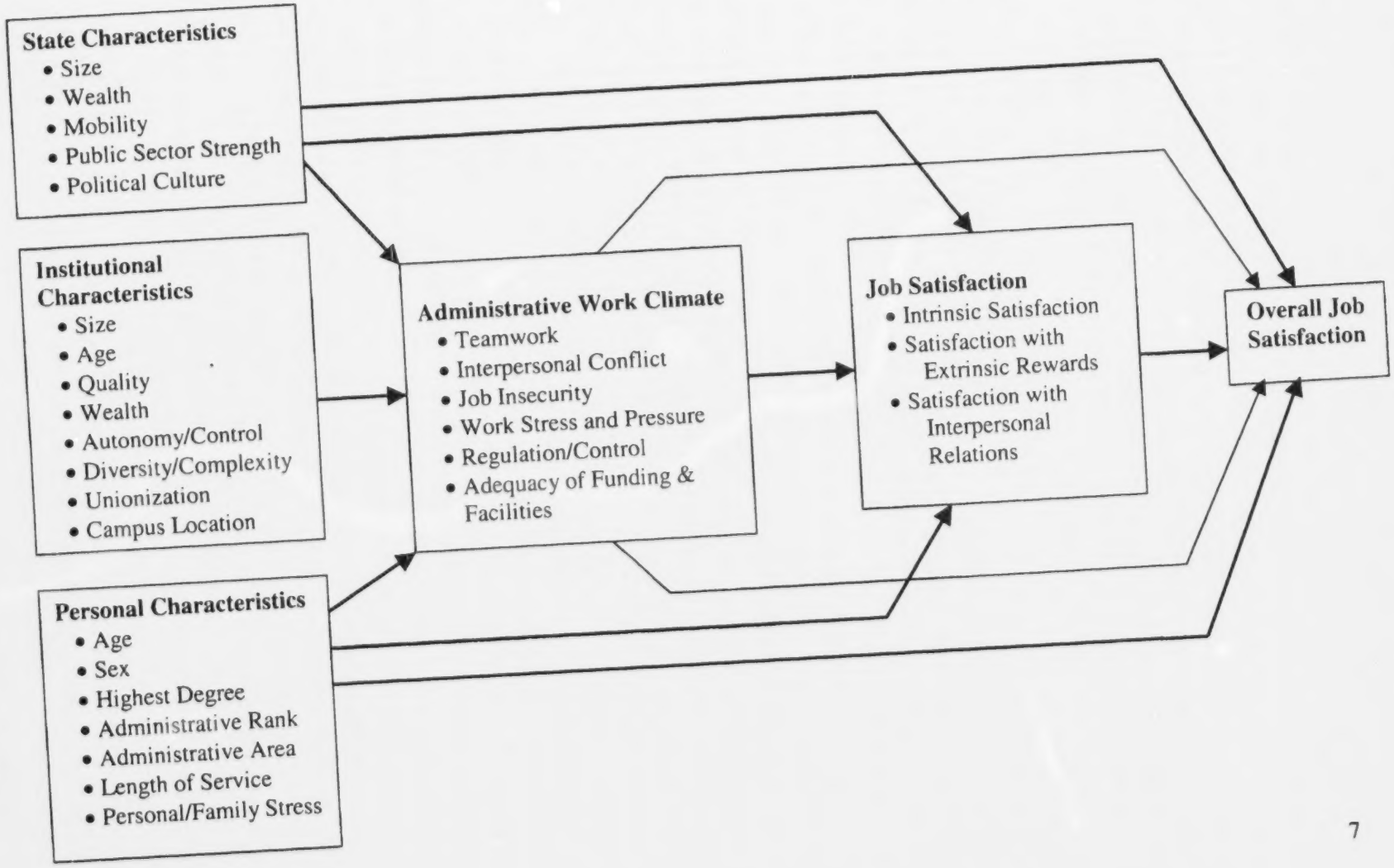
The Model

We have developed a model of administrative satisfaction (Figure 1) that embraces the theoretical and empirical work discussed above. Overall job satisfaction is a product of many influences, most importantly the intrinsic and extrinsic rewards of the position and the nature of the administrative work environment. The most important dimensions of satisfaction are satisfaction with the nature of the work (intrinsic), satisfaction with the rewards (extrinsic), and satisfaction with those one works with (interpersonal). These components of satisfaction are heavily influenced by the immediate work environment and its climate of teamwork, interpersonal conflict, job security, work stress and pressure, regulation and control, and adequacy of funding and facilities.

Individual administrators carry their own personal characteristics into this setting, and one's age, sex, educational level, rank, health, and financial problems are among the characteristics that influence not only the work environment, but one's satisfaction with it. University work environments also are the products of each particular university's structure and environment. Institutional environments differ by location, by level of support, and by economic and political climate, especially in the case of public universities. Important institutional characteristics include campus age, size, resources, quality, autonomy/control, diversity/complexity, and level of unionization.

In summary, we hypothesize that three major clusters of factors -- state, organizational, and personal characteristics -- influence the administrative work environment and one's perception of it. These work environments and the factors that create them exert independent influences on the various dimensions of administrative job satisfaction – intrinsic, extrinsic, interpersonal, and overall satisfaction. Does the evidence support this model?

Figure 1. Theoretical Model of Administrative Satisfaction



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DATA COLLECTION AND VARIABLE SUMMARY

To test this model, we conducted two surveys at a total of 122 public and private universities which were classified in 1994 by the Carnegie Foundation as Research I and II or Doctoral I and II. The first survey sought information on the management characteristics and regulatory environment at each institution. The second survey was administered to 12 managers on each campus who held positions ranging from vice presidents to deans and directors. This survey contains seven questions about the respondents' backgrounds, 24 items assessing their perceptions of the immediate work climate, and 20 items assessing their satisfaction with different aspects in work. We eventually received all the 122 institutional surveys and 1191 of the satisfaction surveys (85%). Table 1 shows the variables used in this study.

State characteristics data were obtained from the National Center for Educational Statistics (NCES) State Higher Education Profiles and U.S. Census Data. We drew upon an array of 40 economic, demographic and political characteristics of each state. We engaged in data reduction in the form of principal components analysis that produced the five variables shown in Figure 1: State size, wealth, political culture, mobility, and public sector strength.

Campus characteristics data, measuring an array of features such as size, wealth, mission, and complexity, were obtained from IPEDS, from the institutional survey, and from other sources. Factor analysis and model trimming resulted in the reduction of about 70 measures down to the more manageable and relevant ones shown in Figure 1. We used faculty quality as a proxy of campus quality, which was obtained from the national survey of doctoral program quality by the National Research Council (NRC) and the data assembled by Graham and Diamond (1996). Campus autonomy is an ordinal scale that combines public/private control with the responses to our institutional survey items. It reflects both the institution's freedom from state-imposed accountability requirements, as well as administrative and academic flexibility of a campus over managing budgets and revenues, expending funds, setting tuition, appointing personnel without external approval, and initiating academic programs, degree requirements, standards, and departments.

Personal characteristics data were obtained from the individual satisfaction surveys. The variables include respondent's age and length of service, sex, highest degree, academic rank (if any), administrative rank, and functional area. We categorized the functional areas into five divisions: academic affairs, business, institutional research, human resources, and student

services. We also identified five administrative ranks and collapsed the titles into them (vice president/provost, associate vice president/dean, assistant vice president, director, and "assistant to").

***Work climate** variables* reflect the content of 24 survey items. We used factor analysis and scale building techniques to measure seven dimensions of work climate, including teamwork, interpersonal conflict, job insecurity, work stress and pressure, regulation and control, and inadequate funding and facilities.

***Satisfaction** is* assessed using satisfaction items in the survey. The two dozen satisfaction items on the survey use a 5-point Likert scale from very satisfied to very dissatisfied. Through principal components and data reduction techniques we obtained three scales. Intrinsic satisfaction is a seven-item scale that reflects feelings of accomplishment, autonomy, creativity, initiative, and challenges. Extrinsic satisfaction is assessed by three items regarding salary and benefits, opportunities for advancement, and future income potential. Satisfaction with interpersonal relationships is a six-item scale reflecting both social and professional relationships with colleagues, administrative supervisors, faculty, students, and social status and recognition. We use a single item to express overall satisfaction.

RESULTS

Descriptive Analyses by Administrative Area

In the descriptive analysis for this study, we examined the data for differences by major groups of administrators. The organizational literature led us to expect differences between those responsible for the university's major goal activities (academic affairs) versus those carrying out support functions. We also were particularly interested in the responses of those in offices of planning and institutional research. Tables 2 and 3 show the initial results from our descriptive analysis. Table 2 indicates that administrators from different divisions generally perceive their work environment differently. Institutional researchers felt more job insecurity and a controlled work environment. Administrators in academic affairs reported the highest job security and levels of teamwork. But lack of facilities and funding contributed more stress to them than

administrators in any other division. Compared with other divisions, managers in student services reported the highest level of job stress and pressure and the highest level of external regulation in work. People in the business operations reported the highest degree of interpersonal conflict.

Table 3 shows that for overall satisfaction, there is no statistically significant difference among the administrators from different divisions. However, for each dimension of satisfaction, there are significant between-group differences. The academic affairs administrators reported the highest average scores on all three dimensions of satisfaction: intrinsic, extrinsic and interpersonal. The human resources administrators reported the lowest intrinsic satisfaction, the student services people scored the lowest on extrinsic satisfaction, and the people in business were the least satisfied with interpersonal relationships.

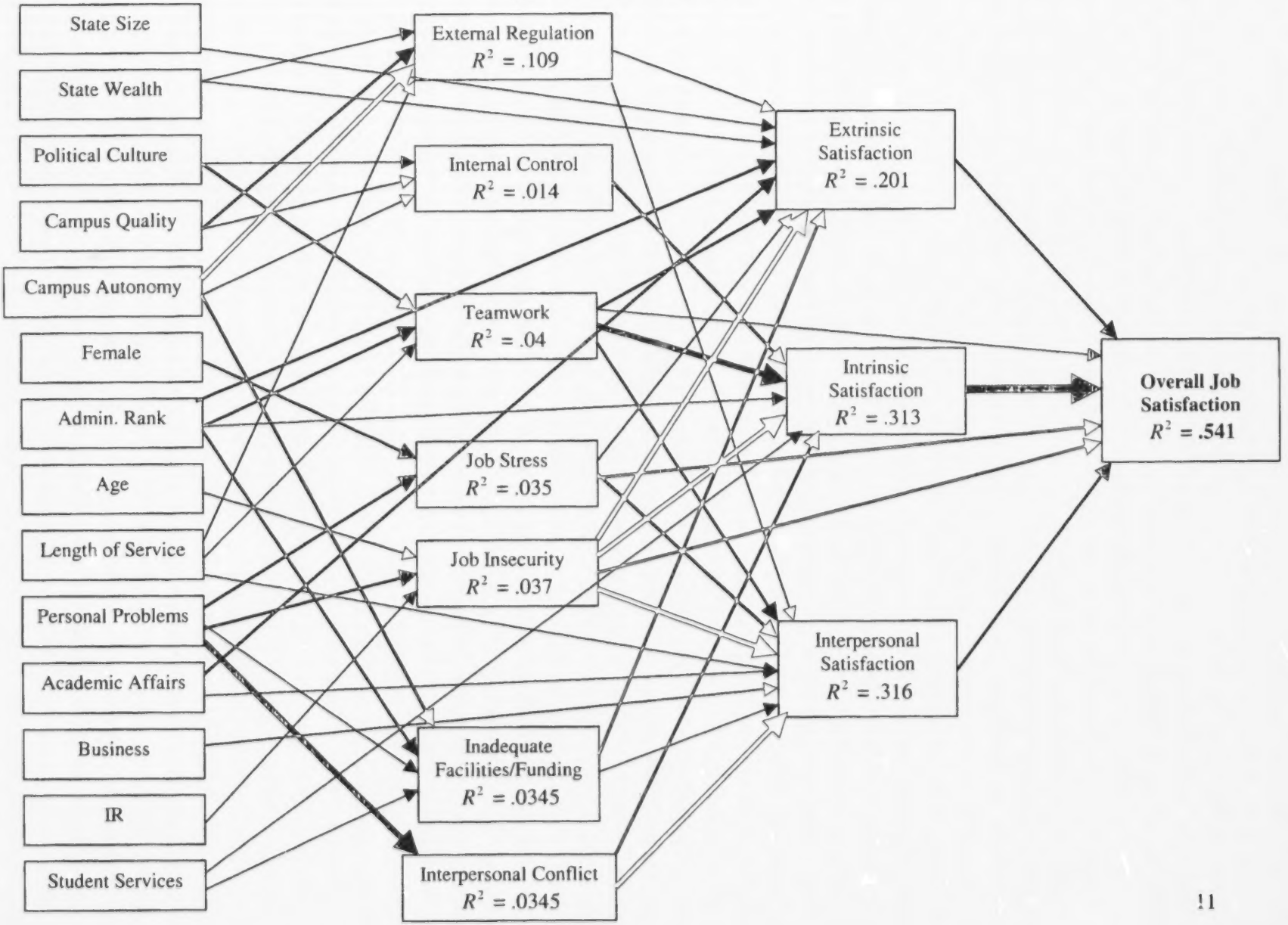
Table 4 shows the correlation of three dimensions of satisfaction with overall job satisfaction. For every administrative function, the intrinsic rewards of the job are the most strongly associated with overall job satisfaction. This statistical connection is especially strong for those in IR.

AMOS Results on Perceived Work Climate

For the multivariate analysis, we used structural equation modeling (SEM) to identify the direct and indirect effects of different state, campus and personal characteristics, and work environment variables on administrative satisfaction. Figure 2 shows the path diagram of the findings. Only the variables and paths that are statistically significant are included in the final diagram. Table 5 and 6 summarize the standardized regression weights generated by AMOS. Appendix 1-3 summarize the direct and indirect effects of every variable in the model.

Controlling for all other variables, state characteristics have very small influences on administrators' perceptions of their work climate. The only significant variables are state wealth, which positively influences external regulation on campus, and state political culture, which positively influences internal control. Apparently, the more prosperous states exert more external regulation on each campus, and those states with political cultures dominated by the Democratic Party, minorities, and little agriculture have university work environments characterized by less teamwork and more internal control.

Figure 2: The Path Diagram



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Campus autonomy is the strongest predictor low external regulation. Since in our database private universities score high on autonomy while public universities score mixed, this result shows that administrators in private universities and the least regulated publics tend to perceive less regulation and control in their work. Campus autonomy is also negatively related with inadequate facilities and funding. Again, administrators in private universities and the least regulated publics tend to perceive not only a more flexible work environment but also more adequate facilities and funding than other administrators. Campus quality is positively associated with external regulation but negatively related with controlled work environment. The administrators working in better institutions tended to perceive more external regulation but less internal control.

Six individual characteristics variables turn out to have significant impacts on the perceived work climate, controlling for all other influences. Sex is the strongest predictor of job stress and pressure. Female administrators tended to experience more stress and pressure in their work. Administrative rank is the strongest predictor for perceived teamwork and inadequate facilities and funding. Administrators holding higher positions observed more teamwork but fewer resources in their work. The age of an administrator only influences his/her perception on job security. Senior administrators tended to be less worried about their job security. The one who are younger, having more personal problems, and working in IR and planning positions have less job security. Length of service, however, does not significantly influence one's job security, but it does seem to influence perceptions of teamwork and low regulation.

Personal problems (health, finances, etc.) influence one's perceptions of many aspects in work: job stress and pressure, job insecurity, inadequate facilities and funding, and, especially, interpersonal conflict. The administrators who are experiencing health and financial problems tend to feel more job stress and pressure, feel their job being insecure, report fewer work resources, and perceive more interpersonal conflict around them. Personal and family problems constitute the strongest and only predictor (with a standardized regression weight = .254) of interpersonal conflict.

On the whole, the seven regression analyses we did in the first part of the model tend to have very low R-squares. The most robust model is for external regulation. But generally, the exogenous variables are not able to explain much of the variances in each endogenous variable.

AMOS Results on Job Satisfaction

Table 6 shows the AMOS standardized regression weights for the satisfaction variables. We first regressed all the state, campus and personal characteristics variables and perceived work environment variables on three types of satisfaction: intrinsic, extrinsic and interpersonal satisfaction. Then, we included all the above variables and regressed them on overall job satisfaction.

For intrinsic satisfaction, we are able to explain 31 percent of its variance. State and campus characteristics do not exert any direct effect. The administrators with higher rank and who worked in student services division tended to report higher intrinsic satisfaction but those effects are small. The immediate work environment measures account for much larger effects. The administrators working in a controlled work environment, having low job security, and experiencing more interpersonal conflict report lower intrinsic satisfaction. Those experiencing more teamwork tend to have higher intrinsic satisfaction.

Extrinsic satisfaction is affected by such state characteristics as size and wealth. Apparently those in larger affluent states receive better compensation. The administrators who hold higher rank and who work in academic affairs tend to be more satisfied extrinsically. Job insecurity has the strongest negative influence on extrinsic satisfaction (-.269). Extrinsic satisfaction is also negatively related with external regulation, job stress and pressure, and inadequate facilities and funding. Teamwork, again, exerts a positive effect on extrinsic satisfaction.

Interpersonal satisfaction is affected by a variety of personal characteristics variables and working environment variables. The longer the administrators had worked in the institution, the more satisfied they tended to feel with interpersonal relationships. Working in academic affairs division tends to increase one's interpersonal satisfaction while working in business division tends to lower one's interpersonal satisfaction. Most of the work environment variables in our analysis significantly influence one's interpersonal satisfaction. Perceived interpersonal conflict is the strongest predictor, followed by job insecurity. The only mysterious relationship is the one between inadequate resources and interpersonal satisfaction. People reporting a lack of resources

tend to have higher interpersonal satisfaction. Perhaps good peer relations compensate for inadequate resources.

We are able to explain 54 percent of the variance in one's overall job satisfaction. All the three types of satisfaction variables exert strong effects on overall satisfaction. Three working environment variables also have direct effects. Intrinsic satisfaction is the strongest predictor, which has a standardized regression weight of .426. The second strongest effect is from job insecurity, which is followed by satisfaction with interpersonal relationships. The people working in academic affairs tend to report the highest levels of overall job satisfaction. Those in IR and Planning are about average.

Overall, the results show that state, campus and most personal characteristics do not exert direct effects on one's overall job satisfaction. Rather, these exogenous organizational and personal variables exert small but statistically significant effects on the administrative work climates. These immediate work climates, in turn, have more powerful impact on the various components of job satisfaction. The working environment variables and three types of job satisfaction variables have the strongest effects on overall job satisfaction, with intrinsic satisfaction being the most influential.

The Chi-square of the model is 471.7 with 211 degrees of freedom. This large Chi-square is caused by the large sample size (N = 1178). The Tucker-Lewis index of the model is .993, and the RMSEA is .032. They both indicate a good fit of the model.

DISCUSSION AND CONCLUSIONS

The research on administrative staff is not as rich in either breadth or depth as that on faculty (Johnsrud, 2002). This study is significant for a number of reasons. First, we proposed an administrative satisfaction model, which links state, campus, individual, and work environment characteristics with several dimensions of job satisfaction.

This study is the first that demonstrates the relationship between state characteristics and administrative satisfaction. We found that state size and wealth directly influence the extrinsic dimension of one's job satisfaction. The political culture of a state (reflecting Democratic Party

strength, minorities, and little agricultural employment) more or less affects one's perception of internal control and teamwork on campus, and thus influences one's job satisfaction indirectly.

We also confirmed the early findings on the influence of teamwork and interpersonal relationships on job satisfaction (Bensimon & Neumann, 1993; Hagedorn, 1996; Volkwein, et al., 1998). Workplace relationships and an atmosphere of teamwork are the ingredients that have highly positive impacts on most measures of satisfaction. Moreover, we have also identified another factor in work, job insecurity, which strongly and directly associates with all three subcomponents of satisfaction and overall satisfaction. Its total standardized effects are even larger than those of teamwork and interpersonal relationships. Therefore, job insecurity greatly decreases administrator job satisfaction and may even increase their intentions to leave.

Many higher education studies report a relationship between gender and job satisfaction. Some studies on faculty satisfaction reported that female faculty indicate less job satisfaction than ~~the~~ male (Winkler, 1982; Hollon & Gemmill, 1976). Others, however, found no significant differences between male and female (Wolfson, 1986). In our study, we found that the effect of gender is not direct. It is mediated by other variables, such as the perception of job stress and pressure, and then indirectly and negatively influences one's overall job satisfaction. We also confirmed the impact of personal problems, health problems and financial problems, on individual perceptions of work climate and attitude toward one's job. The administrators who experience more personal problems tend to have more negative feelings about their work climate and these negative perceptions directly influence three dimensions of satisfaction and eventually their overall job satisfaction.

This study also confirms that intrinsic satisfaction is the most significant contributor of one's overall job satisfaction (e.g., Tack & Patitu, 1992; Johnsrud & Rosser, 1999). The standardized regression weight for intrinsic is almost three times larger than extrinsic satisfaction and interpersonal satisfaction. For administrators, as well as faculty, the intrinsic aspects of work are more important than the others. Administrators want their voice to be heard, want to participate more actively into the decision-making process of their work and want to grow with their institution. Higher education institutions should respond to the intrinsic needs of their employees and create opportunities for them to be creative, to exercise their initiative, and to match their talents appropriately to job responsibilities.

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In summary, our study finds support for a model of administrative job satisfaction and identifies not only the important components of job satisfaction, but also the components of the work settings that produce them. Hopefully, this helps institutions create the work environments and incentive systems to improve administrative satisfaction, productivity, and institutional effectiveness.

Table 1: Measures Used in the Analyses

Constructs and Variables	Nature of the Measure	Cronbach's Alpha
State Characteristics*		
1. State Size	Factor score (using principal components analysis), indicating state population, higher education enrollment, public expenditures, and spending on research and student aid	
2. State Wealth	Factor score (using principal components analysis), indicating median family income, per capita personal income, and poverty rate of a state	
3. Public Sector Strength	Factor score (using principal components analysis), indicating higher education appropriations per capita, higher education appropriations per $1000 income, percent government employees, percent institutions public, private higher education enrollment	
4. Mobility	Factor score (using principal components analysis), indicating population change, mobility, and governor's power	
5. Political Culture	Factor score (using principal components analysis), indicating state political culture, minority higher education enrollment, democratic party strength, and agriculture employment	
Campus Characteristics*		
6. Campus Size	IPEDS Enrollment (in thousands)	
7. Faculty Quality	* Computed Scale from NRC data	.94
8. Autonomy	2-item scale indicating administrative autonomy/flexibility and academic autonomy/flexibility: categories ranging from least flexible (1) to most flexible (4). Private U. = 4	
9. Campus Age	1995 minus year founded	
10. Campus rural environment	Rural = 3; Suburban = 2; Urban = 1	
11. Percent Minority Students	From IPEDS	
Personal Characteristics		
12. Female	Female = 1, Male = 0	
13. Administrative Rank	Categorized in 5 ranks: vice president/provost, associate vice president/dean, assistant vice president, director, and "assistant to"	
14. Age	4 categories from survey: Under 30; 30 to 44; 45-59; 60+	
15. Length of Service	5 categories from survey, under 2 yr; 3-5 yr; 6-10 yr; 10-20 yr; 21+	
16. Administrative Division	Categorized in 5 divisions: academic affairs, business, institutional research, human resources, and student services	

17. Personal Problems Financial stress	2 items from survey – 5 point scale indicating financial stress and personal/family health problems	.61
Perceived Work Climate		
18. External Regulation	1 item from survey – 5 point scale rating the degree of external regulation on campus	
19. Internal Control	1 item from survey – 5 point scale rating the amount of internal work control	
20. Inadequate Funding/Facilities	2 items from survey – 5 point scale indicating the extent to which lack of funding and facilities contributes to work stress	.60
21. Job Insecurity	4 items from survey – 5 point scale indicating job security, secured future and turnover	.80
22. Job Stress & Pressure	2 items from survey – 5 point scale indicating the extent to which this contributes to stress	.80
23. Administrative Teamwork	2 items from survey – 5 point scale, assessing atmosphere of administrative teamwork	.69
24. Interpersonal Conflict	4 items from survey – 5 point scale, indicating the extent of conflict with various categories of individuals	.73
Satisfaction		
25. Intrinsic Satisfaction	7 items from survey – 5 point scale indicating feelings of accomplishment, autonomy, creativity, initiative, and challenges	.89
26. Extrinsic Satisfaction	3 items from survey – 5 point scale regarding salary and benefits, opportunities for advancement, and future income potential	.77
27. Interpersonal Satisfaction	6 items from survey – 5 point scale reflecting both social and professional relationships with colleagues, administrative supervisors, faculty, students, and social status and recognition	.80
28. Overall Job Satisfaction	1 item from survey – 5 point scale indicating the overall level of job satisfaction	

*These campus measures are modeled after procedures described in Volkwein & Malik (1997) and Volkwein & Parmley (2000)

Table 2: Perceptions on Working Environment by Administrative Area

	Institutional Research	Academic Affairs	Business	Human Resources	Student Services	All Respondents
Interpersonal Conflicts*	**2.18**	1.97	2.12	2.19	2.09	2.10
Job Stress & Pressure*	**3.19**	3.11	3.03	3.17	3.24	3.11
Teamwork**	**3.15**	3.54	3.30	3.04	3.24	3.30
Inadequate Facilities & Funding**	**2.86**	3.43	3.05	3.06	3.27	3.15
Job Insecurity**	**2.36**	1.90	2.17	2.19	2.30	2.16
Internal Control	**2.82**	2.91	2.85	3.06	2.92	2.90
External Regulation*	**3.49**	3.20	3.43	3.46	3.57	3.42

* Differences between groups are significant ($p < .05$).
** Differences between groups are significant ($p < .01$).

Table 3: Mean Satisfaction Scores by Administrative Area

	N	Intrinsic Satisfaction*	Extrinsic Satisfaction **	Interpersonal Satisfaction **	Overall Satisfaction
Institutional Research	**92**	**3.89**	**3.09**	**3.71**	**3.87**
Academic Affairs	229	4.10	3.65	3.97	4.02
Business	525	3.93	3.23	3.65	3.92
Human Resources	144	3.80	3.12	3.69	3.81
Student Services	188	4.00	3.11	3.69	3.81
All Respondents	1178	3.96	3.26	3.73	3.90

* Differences between groups are significant ($p < .05$).
** Differences between groups are significant ($p < .01$).

Table 4: Correlation with Overall Satisfaction by Administrative Area

	Intrinsic Satisfaction	Extrinsic Satisfaction	Interpersonal Satisfaction
Institutional Research	**.735**	**.608**	**.602**
Academic Affairs	.612	.327	.483
Business	.700	.466	.532
Human Resources	.676	.528	.454
Student Services	.653	.449	.570
All Respondents	.676	.463	.526

All correlations are significant at the .01 level (2-tailed).

Table 5: Standardized Regression Weights on Perceived Work Climate (Includes only Significant Paths)

Independent Variables	Dependent Variables						
	External Regulation	Internal Control	Job Stress & Pressure	Job Insecurity	Teamwork	Inadequate Facilities & Funding	Interpersonal Conflict
State Characteristics							
Size							
Wealth	.067*						
Public Sector							
Mobility					-.129**		
Political Culture		.070*					
Campus Characteristics							
Size							
Quality	.108**	-.069*				-.108**	
Autonomy	-.284**	-.072*					
Institutional Age							
Campus Location							
Student Diversity							
Individual Characteristics							
Female			.137**		.132**	.162**	
Admin. Rank				-.083*			
Age					.079*		
Length of Service	-.068*		.127**	.160**		.089*	.254**
Personal Problems							
Academic Affairs							
Business				.048**			
IR						.087*	
Student Services							
R-Square	.109	.014	.035	.037	.040	.045	.065

** p<.001

* p<.05

Table 6: Standardized Regression Weights on Satisfaction

Independent Variables	Dependent Variables			
	Intrinsic Satisfaction	Extrinsic Satisfaction	Interpersonal Satisfaction	Overall Job Satisfaction
State Characteristics				
Size		.068*		
Wealth		.089*		
Public Sector				
Mobility				
Political Culture				
Campus Characteristics				
Size				
Quality				
Autonomy				
Institutional Age				
Campus Location				
Student Diversity				
Individual Characteristics				
Female				
Admin. Rank	.093**	.146**		
Age				
Length of Service			.083**	
Personal Problems				
Academic Affairs		.104*	.084*	
Business			-.083*	
Institutional Research				
Student Services	.082**			
Perceptions on Working Environment				
External Regulation		-.072*	-.056*	
Internal Control	-.167**			
Job Stress/Pressure		-.062*	-.117**	-.122**
Job Insecurity	-.282**	-.269**	-.208**	-.155**
Teamwork	.213**	.107**	.178	.083**
Inadequate Facilities/Fund		-.103**	.072*	
Interpersonal Conflict	-.184**		-.257**	
Job Satisfaction				
Intrinsic Satisfaction				.426**
Extrinsic Satisfaction				.118**
Interpersonal Satisfaction				.150**
R-Square	.313	.201	.313	.541

** p<.001
* p<.05

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Appendix 1: Standardized Total Effects - Estimates

	state size	state wealth	political culture	faculty quality	autonomy	female	age	length of service	admin. rank	personal problems	academic affairs	business
reglatn8	0	0.067	0	0.108	-0.284	0	0	-0.068	0	0	0	0
work8	0	0	0.07	-0.069	-0.072	0	0	0	0	0	0	0
facility	0	0	0	0	-0.108	0	0	0	0.162	0.089	0	0
insecure	0	0	0	0	0	0	-0.083	0	0	0.16	0	0
team_n	0	0	-0.129	0	0	0	0	0.079	0.132	0	0	0
stress_n	0	0	0	0	0	0.137	0	0	0	0.127	0	0
conflict	0	0	0	0	0	0	0	0	0	0.254	0	0
inte_sat	0	-0.004	-0.023	-0.006	0.008	-0.016	0.017	0.101	0.035	-0.107	0.084	-0.083
ex_sat	0.068	0.084	-0.014	-0.008	0.032	-0.008	0.022	0.013	0.144	-0.06	0.104	0
in_sat	0	0	-0.039	0.012	0.012	0	0.024	0.017	0.121	-0.092	0	0
overal10	0.008	0.009	-0.032	0.003	0.01	-0.02	0.028	0.031	0.085	-0.103	0.025	-0.013

	IR	student services	regula-tion	control	inadequate facilities & funding	job insecurity	team-work	job stress	conflict	intrinsic satisf.	extrinsic satisf.	inter-personal satisf.
reglatn8	0	0	0	0	0	0	0	0	0	0	0	0
work8	0	0	0	0	0	0	0	0	0	0	0	0
facility	0	0.087	0	0	0	0	0	0	0	0	0	0
insecure	0.048	0	0	0	0	0	0	0	0	0	0	0
team_n	0	0	0	0	0	0	0	0	0	0	0	0
stress_n	0	0	0	0	0	0	0	0	0	0	0	0
conflict	0	0	0	0	0	0	0	0	0	0	0	0
inte_sat	-0.01	0.006	-0.056	0	0.072	-0.208	0.178	-0.117	-0.257	0	0	0
ex_sat	-0.013	-0.009	-0.072	0	-0.103	-0.269	0.107	-0.062	0	0	0	0
in_sat	-0.013	0.082	0	-0.167	0	-0.282	0.213	0	-0.184	0	0	0
overal10	-0.016	0.035	-0.017	-0.071	-0.001	-0.338	0.213	-0.147	-0.117	0.426	0.118	0.15

Appendix 2: Standardized Direct Effects - Estimates

	state size	state wealth	political culture	faculty quality	autonomy	female	age	length of service	admin. rank	personal problems	academic affairs	business
reglatn8	0	0.067	0	0.108	-0.284	0	0	-0.068	0	0	0	0
work8	0	0	0.07	-0.069	-0.072	0	0	0	0	0	0	0
facility	0	0	0	0	-0.108	0	0	0	0.162	0.089	0	0
insecure	0	0	0	0	0	0	-0.083	0	0	0.16	0	0
team_n	0	0	-0.129	0	0	0	0	0.079	0.132	0	0	0
stress_n	0	0	0	0	0	0.137	0	0	0	0.127	0	0
conflict	0	0	0	0	0	0	0	0	0	0.254	0	0
inte_sat	0	0	0	0	0	0	0	0.083	0	0	0.084	-0.083
ex_sat	0.068	0.089	0	0	0	0	0	0	0.146	0	0.104	0
in_sat	0	0	0	0	0	0	0	0	0.093	0	0	0
overal10	0	0	0	0	0	0	0	0	0	0	0	0

	IR	student services	regula-tion	control	inadequate facilities & funding	job insecurity	team-work	job stress	conflict	intrinsic satisf.	extrinsic satisf.	inter-personal satisf.
reglatn8	0	0	0	0	0	0	0	0	0	0	0	0
work8	0	0	0	0	0	0	0	0	0	0	0	0
facility	0	0.087	0	0	0	0	0	0	0	0	0	0
insecure	0.048	0	0	0	0	0	0	0	0	0	0	0
team_n	0	0	0	0	0	0	0	0	0	0	0	0
stress_n	0	0	0	0	0	0	0	0	0	0	0	0
conflict	0	0	0	0	0	0	0	0	0	0	0	0
inte_sat	0	0	-0.056	0	0.072	-0.208	0.178	-0.117	-0.257	0	0	0
ex_sat	0	0	-0.072	0	-0.103	-0.269	0.107	-0.062	0	0	0	0
in_sat	0	0.082	0	-0.167	0	-0.282	0.213	0	-0.184	0	0	0
overal10	0	0	0	0	0	-0.155	0.083	-0.122	0	0.426	0.118	0.15

Appendix 3: Standardized Indirect Effects - Estimates

	state size	state wealth	political culture	faculty quality	autonomy	female	age	length of service	admin. rank	personal problems	academic affairs	business
reglatn8	0	0	0	0	0	0	0	0	0	0	0	0
work8	0	0	0	0	0	0	0	0	0	0	0	0
facility	0	0	0	0	0	0	0	0	0	0	0	0
insecure	0	0	0	0	0	0	0	0	0	0	0	0
team_n	0	0	0	0	0	0	0	0	0	0	0	0
stress_n	0	0	0	0	0	0	0	0	0	0	0	0
conflict	0	0	0	0	0	0	0	0	0	0	0	0
inte_sat	0	-0.004	-0.023	-0.006	0.008	-0.016	0.017	0.018	0.035	-0.107	0	0
ex_sat	0	-0.005	-0.014	-0.008	0.032	-0.008	0.022	0.013	-0.003	-0.06	0	0
in_sat	0	0	-0.039	0.012	0.012	0	0.024	0.017	0.028	-0.092	0	0
overal10	0.008	0.009	-0.032	0.003	0.01	-0.02	0.028	0.031	0.085	-0.103	0.025	-0.013

	IR	student services	regula-tion	control	inadequate facilities & funding	job insecurity	team-work	job stress	conflict	intrinsic satisf.	extrinsic satisf.	inter-personal satisf.
reglatn8	0	0	0	0	0	0	0	0	0	0	0	0
work8	0	0	0	0	0	0	0	0	0	0	0	0
facility	0	0	0	0	0	0	0	0	0	0	0	0
insecure	0	0	0	0	0	0	0	0	0	0	0	0
team_n	0	0	0	0	0	0	0	0	0	0	0	0
stress_n	0	0	0	0	0	0	0	0	0	0	0	0
conflict	0	0	0	0	0	0	0	0	0	0	0	0
inte_sat	-0.01	0.006	0	0	0	0	0	0	0	0	0	0
ex_sat	-0.013	-0.009	0	0	0	0	0	0	0	0	0	0
in_sat	-0.013	0	0	0	0	0	0	0	0	0	0	0
overal10	-0.016	0.035	-0.017	-0.071	-0.001	-0.183	0.13	-0.025	-0.117	0	0	0

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